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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,054	10/10/2001	Tomoya Yoneda	35.C15865	5041

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EXAMINER

TILLERY, RASHAWN N

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/973,054	Applicant(s) YONEDA ET AL.	
	Examiner Rashawn N Tillery	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6 and 10 is/are rejected.
- 7) ☒ Claim(s) 2, 3 and 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/2/4/25/5/20/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 7 is objected to because of the following informalities: in the last line of claim 7, "output lines" should be "output line". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Nagasaki et al (US5436662).

Regarding claim 10, Nagasaki discloses, in figure 2, an image pickup apparatus comprising:

a plurality of image pickup areas (25a, 25b) formed on a same semiconductor chip and arranged in the horizontal and the vertical directions, each image pickup area having a plurality of pixels arranged in the horizontal and the vertical directions;

a plurality of vertical scanning circuits (22a, 22b) sequentially scan pixels adapted in the vertical direction to scan a plurality of image pickup areas in the vertical direction independently from each other; and

wherein said plurality of vertical scanning circuits are provided adjacent to at least one side of each of said plurality of image pickup areas.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaki et al in view of Abell et al (US4323925).

Regarding claim 1, Nagasaki discloses, in figure 2, an image pickup apparatus comprising:

a plurality of image pickup areas (25a, 25b) formed on a same semiconductor chip and arranged in the horizontal and the vertical directions, each image pickup area having a plurality of pixels arranged in the horizontal and the vertical directions;

a plurality of vertical scanning circuits (22a, 22b) adapted to sequentially scan pixels in the vertical direction to for scan a plurality of image pickup areas in the vertical direction independently from each other; and

a driving circuit (21) adapted to drive said plurality of vertical scanning circuits so that at least a part of a scanning period of each of the plurality of vertical scanning circuits overlaps with each other.

Nagasaki does not expressly disclose a plurality of lenses provided in each of the plurality of image pickup areas.

Abell teaches, in figures 1 and 2, a plurality of image sensor modules each having a respective lens adapted to focus light to form an image on the image pickup areas. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagasaki's device by implementing Abell's teachings. One would have been motivated to do so in an effort to generate high-resolution optical images.

Regarding claim 6, Nagasaki discloses, in figure 2, the plurality of vertical scanning circuit is provided adjacent to at least one side of each of said plurality of image pickup areas.

2. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagasaki et al in view of Abell et al in further view of Sato (US6337713).

Regarding claim 4, Nagasaki discloses, in figure 2, a first common output line (27) for sequentially outputting signals from a first image pickup block including a plurality of image pickup areas that are arranged in the horizontal direction, a second common output line (28) for sequentially outputting signals from a second image pickup block including a plurality of image pickup areas that are arranged in the horizontal direction and a horizontal scanning circuit adapted to read out signals to both output lines. Neither Nagasaki nor Abell expressly disclose separate horizontal scanning circuits adapted to read out signals to the first common output line and to the second common output line, respectively. Sato teaches, in figure 2, that it is well known in the

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art to provide multiple image sensors each with a horizontal scanning circuit for reading out signals to their respective output lines (see col. 7, lines 1-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagasaki's device by implementing Sato's teachings. One would have been motivated to do so in an effort to increase the readout time.

Regarding claim 5, Nagasaki discloses the driving circuit drives the plurality of vertical scanning circuits so that the plurality of vertical scanning circuits scan one line of pixels included in the first image pickup block at half the speed of one line of pixels included in the second image pickup block. Neither Nagasaki nor Abell expressly disclose driving the pixels at the same time. Sato teaches, in figure 4, that it is well known in the art to provide multiple image sensors driven by a single drive circuit for reading out pixel signals (see col. 7, lines 1-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagasaki's device by implementing Sato's teachings. One would have been motivated to do so in an effort to increase the readout time.

Allowable Subject Matter

1. Claims 7-9 would be allowable if rewritten or amended to overcome the objection.
2. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Regarding claim 2, the prior art does not teach or fairly suggest an image pickup apparatus comprising a plurality of image pickup areas, a plurality of vertical scanning circuits, a plurality of lenses, a driving circuit and a common output line, wherein the common output line sequentially outputs signals from the plurality of image pickup areas.

Conclusion


1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamazaki et al teach a high definition apparatus having plural image sensors.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RNT


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